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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/988,579	11/20/2001	Simon Gerard Hardin	P67299US0	8749
7590	10/20/2003		EXAMINER	
JACOBSON HOLMAN 400 SEVENTH STREET, N. W. WASHINGTON, DC 20004			OLTMANS, ANDREW L	
			ART UNIT	PAPER NUMBER
			1742	
			DATE MAILED: 10/20/2003	

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/988,579	Applicant(s) HARDIN ET AL.
	Examiner Andrew L Oltmans	Art Unit 1742

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.

- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.

- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.

- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 22 September 2003.

2a) This action is **FINAL**. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1,2,4-21,33-40,44 and 45 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) Claim(s) _____ is/are allowed.

6) Claim(s) 1,2,4-21,33-40,44 and 45 is/are rejected.

7) Claim(s) _____ is/are objected to.

8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) The proposed drawing correction filed on _____ is: a) approved b) disapproved by the Examiner.
 If approved, corrected drawings are required in reply to this Office action.

12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some * c) None of:

1. Certified copies of the priority documents have been received.

2. Certified copies of the priority documents have been received in Application No. _____.

3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
 a) The translation of the foreign language provisional application has been received.

15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) <input type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____	6) <input type="checkbox"/> Other: _____

DETAILED ACTION

Status of the Claims

1. Claims 1-2, 4-21, 33-40 and 44-45 remain pending in this application. In view of applicant's amendments, the objections have been withdrawn. Further in view of applicant's amendments, the rejection of claims 1-4, 6-15, 17-19, 34 and 39 over UK '024 under 35 USC 102(b) have been withdrawn. However, the rejections of claims 33, 35-38 and 40 over UK '024 under 35 USC 102(b); the rejections of claims 1-21 and 33-40 (now 1, 3-21 and 33-40) over WO'292 under 35 USC 102(b) and 35 USC 103(a) (when in view of UK '024); and the obviousness double patenting rejection over claims 1-21 and 33-40 (now 1, 3-21 and 33-40) have been maintained. Further, newly added claims 44-45 have been rejected, as appropriate, under the 35 USC 103(a) rejections over UK '024 in view of WO '292.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

UK Patent Application GB 2 097 024 A

3. Claims 33, 35-38 and 40 are rejected under 35 U.S.C. 102(b) as being anticipated by UK Patent Application GB 2 097 024 A (UK '024).

UK '024 teaches an aqueous acidic solution and concentration containing the claimed ingredients including the rare earth element (including Ce), the accelerator additive (including iron, nickel, cobalt, molybdenum, manganese and aluminum), the peroxidic species (including hydrogen peroxide) and the acid (including nitric acid, sulfuric acid and hydrochloric acid), wherein there is no more than 20 mg/L of fluoride and phosphate and the solution is substantially free of chromate (i.e. free of *hexavalent* chromium), as instantly claimed in instant claims 33, 35-38 and 40 (see e.g. page 17):

50 The cerium ions were introduced as a CeCl_3 solution containing about 300 g/l cerium ions; the manganese ions were introduced as $\text{MnSO}_4 \cdot \text{H}_2\text{O}$; the ferric ions were introduced as $\text{Fe}_2(\text{SO}_4)_3$ dissolved in a dilute sulphuric acid solution, the molybdenum ions were introduced as sodium molybdate dry salt; the lanthanum ions were introduced as an LaCl_3 solution containing about 85 g/l lanthanum ions; and the cobalt ions were introduced as cobalt sulphate. The test solutions are 55 designated as Examples 3.5A to 3.5G and the concentration of metal ion additions are summarised in Table 2.

The composition includes only a single accelerator species, wherein the concentration, the concentration ratio and the pH is encompassed by the instantly claimed compositions of the ingredients, as recited in claims 33 and 37-38 (page 18):

	Metal ion	Table 2 Metal ion concentration g/l						
		Example 3.5A	3.5B	3.5C	3.5D	3.5E	3.5F	3.5G
5	Cr^{+3}	1	1	1	1	1	1	1
	Ce^{+3}	2	2	2	2	2	2	2
	Mn^{+2}	—	0.9	—	—	—	—	—
	Fe^{+3}	—	—	0.22	—	—	0.08	0.08
10	Mo^{+6}	—	—	—	1.0	—	—	—
	La^{+3}	—	—	—	—	1.0	—	—
	Co^{+2}	—	—	—	—	—	—	0.13

The claims do not distinguish over the teachings of UK '024.

With respect to the limitation “for forming a conversion coating on the surface of a metallic material” (recited in claim 1), specifically “aluminum or aluminum alloy” (recited in claim 19), the limitation is merely an intended use and has not been afforded patentable weight. A recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In a claim drawn to a process of making, the intended use must result in a manipulative difference as compared to the prior art. See *In re Casey*, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 136 USPQ 458, 459 (CCPA 1963).

International Application WO 96/15292 A1

4. Claims 1-2 and 4-21 re rejected under 35 U.S.C. 102(b) as being anticipated by

International Application WO 96/15292 A1 (WO '292).

WO '292 teaches an aqueous acidic solution and concentration containing the claimed ingredients including the rare earth element (including La and Ce), the accelerator additive (including transition elements other than chromium, specifically including Cu), the peroxidic species (including metal peroxy complexes and/or hydrogen peroxide) and the acid (including hydrochloric acid), wherein there is no more than 20 mg/L of fluoride and phosphate and the solution is substantially free of chromate (i.e. free of *hexavalent* chromium), as instantly claimed in instant claims 1, 2, 6, 9, 11, 16-17 and 20-21 (page 26):

1. An aqueous, acidic solution for forming a rare earth element containing coating on the surface of a metal, said solution being chromium free and including effective quantities of:
- 5 (a) one or more rare earth element containing species including at least one rare earth element capable of having more than one higher valence state, as herein defined; and
- (b) one or more additives selected from the groups including:
 - (i) aqueous metal complexes including at least one peroxy ligand; and
 - 10 (ii) metal salts or aqueous metal complexes of a conjugate base of an acid in which the metals are selected from Transition Elements, other than chromium, and Group IVA elements of the Periodic Table as herein defined.

(see also page 5, line 31 to page 6, line 7, page 6, lines 17-29, page 8, line 22 to page 9, line 28 and page 11, lines 11-13)

The composition includes only a single accelerator species, wherein the concentration, the concentration ratio and the pH is encompassed by the instantly claimed compositions of the ingredients, as recited in claims 1-2, 4-5, 7-8, 10, 12-15 and 18-19 (page 6, lines 11-16 and 20-25, page 7, lines 9-14, page 9, lines 11-15, page 10, line 3-10). With respect to the recitation of (b)(i) and (b)(ii), the combination of the two provide particularly desirable results (page 10):

The addition of a peroxy complex or a metal complex or salt individually assists in improving coating time and/or adherence of the coating. However, a further improvement in either or both of these parameters can occur if the peroxy complex and metal complex or salt are added to the coating solution in combination. There is accordingly a synergistic effect in adding both types of additives to the coating solution together. There can also be an additional improvement when more than one additive from either or both groups is added to the coating solution.

(see also page 17, lines 27-30 and page 18, lines 1-18)

The claims do not distinguish over the teachings of WO '292.

With respect to the limitation “for forming a conversion coating on the surface of a metallic material” (recited in claim 1), specifically “aluminum or aluminum alloy” (recited in claim 19), the limitation is merely an intended use and has not been afforded patentable weight. A recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In a claim drawn to a process of making, the intended use must result in a manipulative difference as compared to the prior art. See *In re Casey*, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 136 USPQ 458, 459 (CCPA 1963).

With respect to claims 1 and 2, the claims recite 30-1500 mg/L and 50-1500 mg/L total chloride concentration. The claims do not distinguish over the teachings of WO '292 because WO '292 teaches that cerium chloride is not the only source of rare earth compounds, and non-chloride compounds are taught (page 6, line 2). Further, examples 37-39, page 18, includes a total amount of chloride falling within the claimed range. The examples are exemplary of the transitional metal chloride concentration in the taught coating solution wherein the examples provide specific amounts of the transition chloride within the limits of the amount of transition metal chloride as set forth on pages 10, lines 3-8. Therefore, the claimed range of chloride does not distinguish over the teachings of WO '292.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

International Application WO 96/15292 A1 in view of UK Patent Application GB 2 097 024 A

6. Claims 33-40 and 44-45 are rejected under 35 U.S.C. 103(a) as being unpatentable over International Application WO 96/15292 A1 (WO '292) in view of UK Patent Application GB 2 097 024 A (GB '024).

WO '292 teaches and is applied as set forth above in paragraph 5.

WO '292 fails to meet all the limitations of the instant claims in that WO '292 does not explicitly teach the concentrate for make-up of the rare earth conversion coating composition.

GB '024 teaches and is applied as set forth above in paragraph 4. GB '024 teaches that the concentrates can be used as a make-up for the rare-earth conversion coating baths and are advantageous for operating the treatment bath (page 3, lines 1-25).

One of ordinary skill in the art at the time that the invention was made would have found the instant invention to be obvious because one of ordinary skill in the art would have been motivated to provide a make-up solution for the composition of WO '292 in order to provide a manner in which the bath concentrations could easily be managed, as taught in GB '024. Further, one of ordinary skill in the art would find the use of concentrates advantageous because concentrate solutions require less storage requirements and are easier to transport.

With respect to claims 44 and 45, the claims recite "no significant amount of Fe and no intentional addition of Fe to the solution". The claims do not distinguish over the teachings of WO'292 because WO '292 includes embodiments wherein there is no addition of Fe (see e.g. pages 13-14, examples 7(a) to 27(a) and 7(b) to 26(b)). The mere inclusion of some examples including Fe does not limit the teaching of WO '292 to requiring Fe. Therefore, the claimed "no significant amount of Fe an no intentional addition of Fe to the solution" does not distinguish over the teachings of WO '292.

Also with respect to claim 44, the claim recites 30-1500 mg/L total chloride concentration. The claims do not distinguish over the teachings of WO'292 because WO '292 teaches that cerium chloride is not the only source of rare earth compounds, and non-chloride compounds are taught (page 6, line 2). Further, examples 37-39, page 18, includes a total amount of chloride falling within the claimed range. The examples are exemplary of the transitional metal chloride concentration in the taught coating solution wherein the examples provide specific amounts of the transition chloride within the limits of the amount of transition metal chloride as set forth on pages 10, lines 3-8. Therefore, the claimed range of chloride does not distinguish over the claimed concentration of total chloride.

Double Patenting

7. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

8. Claims 1-2, 4-21, 33-40 and 44-45 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-2, 4-21 and 34-40, of copending Application No. 09/988,578. Although the conflicting claims are not identical, they are not patentably distinct from each other because the composition recited by both applications overlap, including concentrations, ratios, selection of particular elements and pH. For example, both applications recite at least one rare earth element, an accelerator additive comprising group VA or VIA of the periodic table and an oxidant (e.g. peroxy compound) (as recited in claim 1 of both applications). No addition of Fe is taught in the claims of Application No. 09/988,578.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Response to Arguments

9. Applicant's arguments filed September 22, 2003 have been fully considered but they are not persuasive. Claims 1-2, 4-21, 33-40 and 44-45 remain pending in this application. In view of applicant's amendments, the objections have been withdrawn. Further in view of applicant's amendments, the rejection of claims 1-4, 6-15, 17-19, 34 and 39 over UK '024 under 35 USC 102(b) have been withdrawn. However, the rejections of claims 33, 35-38 and 40 over UK '024

under 35 USC 102(b); the rejections of claims 1-21 and 33-40 (now 1-2, 4-21 and 33-40) over WO'292 under 35 USC 102(b) and 35 USC 103(a) (when in view of UK '024); and the obviousness double patenting rejection over claims 1-21 and 33-40 (now 1-2, 4-21 and 33-40) have been maintained. Further, newly added claims 44-45 have been rejected, as appropriate, under the 35 USC 103(a) rejections over UK '024 in view of WO '292.

10. With respect to the newly added limitations of claims 1-2 and 44, the claims recite 30-1500 mg/L and 50-1500 mg/L total chloride concentration. The claims do not distinguish over the teachings of WO'292 because WO '292 teaches that cerium chloride is not the only source of rare earth compounds, and non-chloride compounds are taught (page 6, line 2). Applicant's argument that WO '292 is limited to 3.77 g/L is not persuasive because, as mentioned above, the teachings of WO '292 are not limited to cerium chloride (see e.g. page 6, line 2 of WO '292) and the citation made by applicant is of an example that includes cerium chloride. The teachings of WO '292 are not limited to the specific example cited by applicant and does not teach that the minimum amount of chloride is at least 3.77 g/L. The amount of chloride is taught in Examples 37-39, page 18, wherein the examples include a total amount of chloride falling within the claimed range. The examples are exemplary of the transitional metal chloride concentration in the taught coating solution wherein the examples provide specific amounts of the transition chloride within the limits of the amount of transition metal chloride as set forth on pages 10, lines 3-8 of WO '292. Therefore, the claimed range of chloride does not distinguish over the teachings of WO '292.

11. With respect to newly added claims 44 and 45, the claims recite "no significant amount of Fe and no intentional addition of Fe to the solution". The claims do not distinguish over the

teachings of WO '292 because WO '292 includes embodiments wherein there is no addition of Fe (see e.g. pages 13-14, examples 7(a) to 27(a) and 7(b) to 26(b)). The mere inclusion of some examples including Fe does not limit the teaching of WO '292 to requiring Fe. Therefore, the claimed "no significant amount of Fe and no intentional addition of Fe to the solution" does not distinguish over the teachings of WO '292.

12. With respect to applicant's argument that the UK '024 reference does not teach the claimed accelerator metals or the chloride concentration (pages 8-9 of applicant's response), the argument is not persuasive because the claims that are currently rejected (i.e. claims 33, 35-38 and 40) do not require the chloride concentration claimed or the inclusion of the accelerator additive (see paragraph 3, above, particularly, the last section).

13. With respect to applicant's argument that the WO '292 reference fails to teach the chloride concentration (page 9 of applicant's response), the argument is not found persuasive for the reasons set forth in the rejection above (paragraphs 4 and 6) and the reasons set forth in paragraph 10).

14. With respect to the argument that the limitation limiting the claim to a minimum total rare earth concentration in the concentrate solution to 125 g/L is not taught by WO '292 in view of UK '024 (page 10 of applicant's response) is not persuasive. The examiner maintains that the limitation is taught e.g. on page 17, line 50 of UK '024, wherein Ce is exemplified as being 300 g/L in the concentrate solution. The applicant points to a teaching of only 50 g/L in WO '292 on page 6; however, the teaching is for the working solution. The examiner maintains that one of ordinary skill in the art would find the use of the concentrate solution, such as the concentrate solution of UK '024, obvious and would be motivated for the reasons set forth in the previous

Office Action, including desirably providing a manner in which the bath concentrations could easily be managed, as taught in GB '024 and because concentrate solutions, such as the one taught in UK '024, require less storage requirements and are easier to transport (see previous Office Action, paragraph 7). Likewise, applicant's reference to the molar ratios of the sum of the accelerators to anions in WO '292 is not persuasive because the examiner maintains that the range of instant claim 39 encompasses the ratios in the teachings of WO'292. The sum of the anions (which are anions that include the anions from the rare earth compound, the acid compound and the transition metal compounds) are in a ratio of at least 1:50 and less than 1:10,000. In view of the above, the arguments are not found persuasive.

15. With respect to applicant's argument that claim 1 of the present application requires a different accelerator for those required in claim of co-pending Application No.09/988,578 (page 10 of applicant's response), the argument is not persuasive. The accelerator required by Claim 1 includes the accelerator claimed in 09/988,578, wherein the accelerators in both applications include Sb, Bi, Se and Te (i.e. Group VA and VIA metals).

16. With respect to applicant's argument that claim 1 of Application No.09/988,578 fails to teach the peroxidic species, which is claimed in the instant application (page 10 of applicant's response), the argument is not persuasive. Application No.09/988,578 claims an oxidant, which encompasses the claimed peroxidic species. Further, claim 11 of Application No.09/988,578 explicitly recites the instantly claimed peroxidic species.

17. With respect to applicant's argument that claim 1 of Application No.09/988,578 fails to teach no more than 20 mg/L of each of fluoride and phosphate, which is claimed in the instant application (page 10 of applicant's response), the argument is not persuasive. Claim 1 of

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Application No.09/988,578 recites no fluoride or phosphate, presuming that no fluoride or phosphate is present. Further, claim 20 of Application No.09/988,578 explicitly recites the limitations on fluoride and phosphate claimed in the instant application.

18. Since additional rejections are present in this application, the provisional double patenting rejection has not been withdrawn.
19. In view of all of the above, the arguments presented by applicant have not been found persuasive.

Conclusion

20. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

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21. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew L Oltmans whose telephone number is 703-308-2594. The examiner can normally be reached from 7:00 am to 3:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on 703-308-1146. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.



Andrew L. Oltmans
Patent Examiner
Art Unit 1742

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October 17, 2003